MOUT ACTD

MILITARY OPERATIONS IN URBAN TERRAIN
ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION

MOUT ACTD Breaching

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Agenda

- MOUT ACTD Overview
- MOUT ACTD Requirements
- COTS Technology Solutions
- Operational Lessons Learned
- MOUT ACTD FY01 Extension
- Future Work

Background
MOUT ACTD Mission

Improve the operational capabilities of Soldiers and Marines in MOUT

- **Evaluate advanced technologies to provide technological dominance in MOUT, including TTPs to employ new capabilities.**

- **Provide interim capabilities to operational units with TTPs.**

- **Set the stage for rapid acquisition of selected technologies.**

MOUT ACTD Breaching

- Requirement 30 - Door Breaching
  - non-explosive
  - quick and quiet

- Requirement 27 - Wall Breaching
  - small, fast, simple
  - man-sized hole in concrete walls
  - average soldier/Marine (not Engineers)

R30A – DOOR BREACHING, MECHANICAL

- Halligan Tools
  - Large and bulky
- Door Jamb Spreaders
  - Hydraulic rams
  - Not robust enough

- **RESIDUAL: DEMTEX Breaching Kit**
  - Halligan tool
  - Bolt Cutters
  - Mini-sledge

R27 – WALL BREACHING (1)

- Two COTS products
  - Explosive Cutting Tape (ECT) - EBCo
  - BEAST – H.E.A.T.
- Pre-packaged explosive charge
- Hand emplaced

R27 - ECT Video

R27 – WALL BREACHING (2)

- Brick targets
  - Creates man-sized hole
- Concrete targets
  - Creates man-sized hole
  - Rebar grid still intact
  - ***Requires Secondary action to cut remaining rebar grid***

- TRANSITION: ARMY FY03 SEP
  - Infantryman's Wall Breaching Kit

Wall Breaching System Employment

- (+) Enables soldiers to quickly create a breach wherever they need
- (+) Uses standard and commercial initiation systems
- (+) Soldiers/Marines can be quickly trained
  - Reduces need for Engineers – rifle platoon more capable
  - Soldiers must use only for tasks in which they are trained
- (-) These items are both hand emplaced
  - increases exposure time in “kill zone”
  - follow-on rebar cutting operations increase this exposure time even further
  - Soldiers-in-the-street can be on a level playing field with enemy forces – minimizes US technology advantage

STANDOFF BREACHING

- Soldier/Marine can create a mobility corridor wherever one is needed
- Troops rapidly enter structure – maintain element of surprise
- Technology advantage AND training advantage indoors
  - night vision
  - room clearing

R30B – DOOR BREACHING, STAND-OFF EXPLOSIVE

- Rafael Simon Round – declassified Israeli Defense Forces technology
- Rifle launched using high power blank round

- But…R30 Requirement was for “non-explosive” breaching
- Standoff explosive breaching acts extremely quickly – maintain the element of surprise

- Additional benefit – personnel and booby traps are incapacitated
- Product for window breaching – 1/3 explosive charge

R30B - Simon Video

TRANSITION: RLEM Program

- Simon recommended for the US Army Warfighter Rapid Acquisition Program
- Proponent CG, USAIC
- Approved as Rifle Launched Entry Munition (RLEM) Program
- Requirement for bullet trap activation for operational use, blank round activation for training purposes
- Recoil reduced to meet US Army requirements

WALL BREACHING, STAND-OFF

- Explosively Formed Penetrators (EFPs)
  - examined early in program as a possible means to breach concrete walls and rebar
  - EFPs require large amounts of explosive to propel them to the target

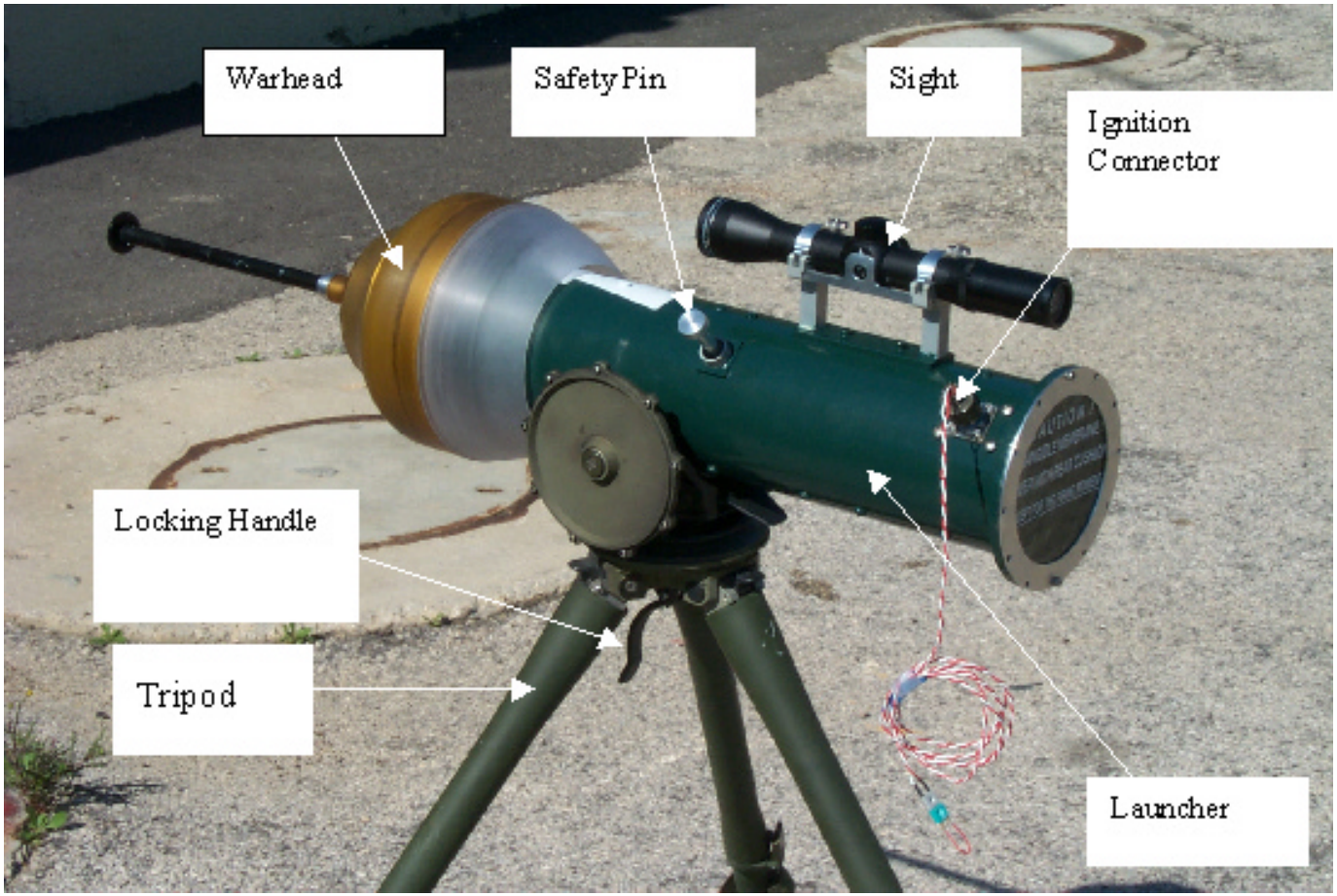
- .50 cal Frangible Ammunition
  - White paper funded to examine feasibility
  - M&S show projectiles can breach concrete and rebar
  - Precision required and quantity of ammo needed restrictive

MOUT ACTD EXTENSION

- MOUT ACTD approved for FY01 Technology Extension
- Team able to invest in technology development (vice COTS/GOTS)

- MOUT ACTD funded development of the Wall Breaching Standoff Munition (WBSM)
  - Leverages Simon technology
  - tripod mounted, rocket launched system
  - breaches man-sized hole in double- or triple-layered brick wall
  - Effective range of the WBSM is 15m to 40m

WBSM System Components



FUTURE WORK

- Submitted FY04 UFR to continue development of the warhead – to enable defeat of reinforced concrete
- Requirement has been validated and funding needs to be identified
- Will use Rafael patented “Explosive Formed Ring” technology
- WBSM munition to be
  - compatible with US-utilized shoulder launch platforms
  - able to be fired from confined spaces

- USMC/MCWL program called “Wall Breaching round for the SMAW”
  - Difference in stand-off distance

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